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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/791,078

03/02/2004

John R. Gladden

02-380

2951

7590

11/23/2005

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EXAMINER

JENKINS, JERMAINE L

ART UNIT

PAPER NUMBER

2855

DATE MAILED: 11/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/791,078	Applicant(s) GLADDEN, JOHN R.	
	Examiner Jermaine Jenkins	Art Unit 2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,5 and 14-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5 and 14-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 5 & 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al (6,401,457) in view of LaRue et al (6,209,390).

In regards to claims 1, 5 & 14, Wang et al teaches a turbocharger system having a turbocharger (18), at least one compressor inlet pressure sensor (48), at least one compressor outlet pressure sensor (COP) (Column 2, lines 15-20; Column 5, lines 33-36; Column 10, lines 26-27; Column 15, lines 36-41), and an electronic control module (42, i.e. engine control module (ECM)) in communication with sensors (Column 5, lines 1-15). However, Wang et al does not teach an electronic control module including means for monitoring at least one of fatigue and creep of at least one component of the turbocharger, at least in part, by sensing at least one parameter correlated to an estimated turbocharger rotational speed; and means for comparing at least one of the monitored fatigue and the monitored creep to a predetermined fatigue criteria and a predetermined creep criteria respectively.

LaRue et al teaches a turbocharger life determining system having the means for monitoring fatigue of one component of the turbocharger by sensing at least one

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parameter (one parameter is being read as mechanical, magnetic or optical principles) correlated to an estimated turbocharger rotational speed (Column 3, lines 7-28), and the means for comparing at least one of the monitored fatigue to a predetermined fatigue criteria (Column 2, lines 26-30 & Column 6, lines 36-46). It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the means for monitoring fatigue of one component of the turbocharger by sensing at least one parameter correlated to an estimated turbocharger rotational speed and the means for comparing at least one of the monitored fatigue to a predetermined fatigue criteria as taught by LaRue et al in the turbocharger system of Wang et al for the purpose of providing an indication of needed turbocharger service based on the actual operating conditions of the turbocharger rather than based only on preprogrammed parameters for more accurate determinations thus eliminating unnecessary costs for inconvenient premature servicing (LaRue et al; Column 6, lines 10-27).

With respect to claims 2 & 17, Wang et al teaches the turbocharger system having a compressor inlet temperature sensor (44) (Column 5, lines 16-26).

With respect to claim 15, LaRue et al teaches the step of monitoring material degradation (degradation being interpreted as material data) of at least one component of the turbocharger, at least in part, by monitoring turbine inlet temperature (Column 2, lines 11-26 & Column 4, line 64 – Column 5, line 8).

With respect to claims 16 & 18, Wang et al teaches the step of calculating a relationship between compressor inlet pressure (CIP) and compressor outlet pressure (COP) (Column 10, lines 25-43; See Equation - COP/CIP).

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With respect to claim 19, LaRue et al teaches the step of indicating when the monitored fatigue exceeds a predetermined fatigue data (Abstract; Column 2, lines 30-34).

With respect to claim 20, LaRue et al teaches the step of recording a calculated cumulative stress value for the turbocharger on the turbocharger (Column 2, lines 21-26).


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jermaine Jenkins whose telephone number is 571-272-2179. The examiner can normally be reached on Monday-Thursday 7am-530pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jermaine Jenkins  
A.U. 2855

  
**EDWARD LEFKOWITZ**  
**SUPERVISORY PATENT EXAMINER**  
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